ISTOSHIN, Yu.V., kand.tekhn.nauk; KAN, S.I., kand.tekhn.nauk

Calculating and predicting physical phenomena in the sea.
Vest.AN SSSR 30   no.7:95-96 Jl '60.   (MIRA 13:7)
(Ocean)

ISTOSHIN, Yu.V.

Organization of modern oceanographic research. Trudy Okean.kom.
11:29-45 '61.   (MIRA 14:7)
(Oceanographic research)

ISTOSHIN, Yu.V.

Area of the 18-degree water in the Sargasso Sea. Okeanologiia
1 no.4:600-607 '61.   (MIRA 14:11)

1. TSentral'nyy institut prognozov.
                    (Sargasso Sea--Ocean temperature)

ISTOSHIN, Yuriy Vladimirovich; LAGUTIN, Boris L'vovich; PROSKURYAKOVA, G.M.,
red.; YEZHOVA, L.L., tekhn. red.

[In the seas and oceans] V moriakh i okeanakh. Moskva, Vysshaia
shkola, 1962. 153 p.   (MIRA 16:6)
            (Oceanography)

ISTOSHIN, Yu.V.; KUKLIN, G.N.

Pacific Ocean currents in the equatorial zone, Meteor.i gidrol.
no.11:28-32 N '62.   (MIRA 15:12)

1. TSentral'nyy institut prognozov.
                    (Pacific Ocean—Ocean currents)

L 40911-66   EWT(1)   GW

ACC NR: AT6006583   (N)   SOURCE CODE: UR/2546/65/000/142/0103/0107

AUTHOR: Volzhenkov, V. A.; Istoshin, Yu. V.

ORG: none

TITLE: The application of spectral functions to the investigation of variability of oceanographic features

SOURCE: Moscow. Tsentral'nyy institut prognozov. Trudy, no. 142, 1965. Morskiye prognozy i raschety (Marine forecasts and calculations); materialy Vsesoyuznogo soveshchaniya, noyabr' 1963 g., 103-107

TOPIC TAGS: autocorrelation function, ocean dynamics, white noise

ABSTRACT: Temperature and current variability in water masses in time were investigated as a function of oscillation durations of a few hours to a few days on the basis of data obtained from seven stations located in the Atlantic, Indian, and Pacific Oceans and the Barents Sea. The spectral density $S(\omega)$ of a stationary random function was expressed through the correlation function $R(\tau)$ using the Fourier transform

$$S(\omega) = \frac{2}{\pi} \int_0^\infty R(\tau) \cos \omega\tau \, d\tau.$$

Autocorrelation and spectral density function values were plotted after solving the

Card 1/2

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ACC NR: AT6006583

integral equation. The selection of the maximum permissible displacement in the eval-
uation of autocorrelation and spectral density functions was made using the Jukey meth-
od (1958). The study shows that 1) in many cases, temperature and current changes are
characterized by periodic oscillations; 2) temperature and current oscillations of
12.4 hr periods are activated by tidal forces; 3) oscillations of 13-25 hr periods are
of inertial type; and 4) oscillations of 30-33 hr and 70-80 hr periods are stimulated
by atmospheric changes. Orig. art. has: 2 figures, 5 formulas.

SUB CODE: 08/   SUBM DATE: none/   ORIG REF: 004/   OTH REF: 005

12/

Card 2/2 ℒℭ

ISTOSHIN, Yu.V.; LIFSHITS, V.M.

"Navigation in the zone of tropical hurricanes" by G.K.Shumeiko.
Reviewed by IU.V.Istoshin, V.M.Lifshits. Meteor. i gidrol. no.4:
52-53 Ap '63.
            (Hurricanes),   (Navigation)   (Shumeiko, G.K.)
                                                        (MIRA 16:5)

GAMUTILOV, A.Ye.; ISTOSHIN, Yu.V.

Hydrologic conditions of the Sargasso Sea and the Gulf Stream
area adjacent to it. Trudy Mor.gidrofiz. inst.AN URSR 29:29-42
'64.   (MIRA 17:7)

VOLZHENKOV, V.A.; ISHUSHIN, Yu.V., kand. geograficheskikh nauk

The central part of the Pacific Ocean. Mor. sbor. 47 no.3:36-42 Mr
'64.   (MIRA 18:7)

VOLZHENKOV, V.A.; ISTOSHIN, Yu.V.

Use of spectral functions for studying the variability of oceano-
graphic characteristics. Trudy TSIP no.142:103-107 '65.

(MIRA 18:10)

L 21208-66   EWT(1)   GW   SOURCE CODE: UR/0213/65/005/006/0954/0958   /6

ACC NR: AP6011942

AUTHOR: Istoshin, Yu. V.; Kalashnikov, A. A.

ORG: Central Institute of Forecasts (Tsentral'nyy institut prognozov); Far Eastern
Hydrometeorological Scientific Research Institute (Dal'nevostochnyy nauchno-
issledovatel'skiy gidrometeorologicheskiy institut)

TITLE: Cromwell current in the western part of the Pacific Ocean

SOURCE: Okeanologiya, v. 5, no. 6, 1965, 954-958

TOPIC TAGS: ocean current, hydrometeorology, oceanography

ABSTRACT: Data on the Cromwell Current obtained by American and Soviet
expeditions are compared. All data confirm that there is a deepening
of the upper and lower boundaries of the Cromwell Current and its axis
in an east to west direction. This article gives a particularly de-
tailed analysis of recent Soviet observations of the current at the
180th meridian, where three buoys were set out at 60-mile intervals.
It was expected that the results would be similar to data obtained in
earlier years at 154°W and 170°E, but in actuality it was found that
at all three buoys there was a movement of water in an ESE direction.
A migration of the boundaries of the current was detected, which casts
doubt on the idea that the current has unusual stability and a constant
symmetry relative to the equator. Apparently at times, under the in-
fluence of hydrometeorological factors, there can be a meandering of
UDC: 551.465.52+551.465.53(265)

Card 1/2

L 21208-66

ACC NR. AP6011942

the current or a parallel displacement of its axis in a southern direction.
Orig. art. has: 2 figures and 1 table. [JPRS]

SUB CODE: 08 / SUBM DATE: 03Dec64 / ORIG REF: 004 / OTH REF: 003

Card 2/2

L 23380-66   EWT(1)   (N)

ACC NR: AP6007647   SOURCE CODE: UR/0213/66/006/001/0046/0052

AUTHOR: Istoshin, Yu. V.

ORG: Central Institute of Weather Forecasting, Moscow (Tsentral'nyy institut prog-
nozov)

TITLE: Water temperature distribution in the equatorial zone of the Pacific Ocean

SOURCE: Okeanologiya, v. 6, no. 1, 1966, 46-52

TOPIC TAGS: sea water, thermogram, isothermal flow, ocean dynamics, ocean current,
ocean property, oceanographic instrument, temperature measurement

ABSTRACT: Temperature distribution for depths down to 500 m was investigated in the
western part of the Pacific Ocean using deep-sea tipping thermometers. The vessel's
Yu. M. Shokal'skiy and A. I. Voyeykov made 10 profiles, crossing the equator along
the 180° meridian between 1960 and 1964. Using the data from the profiles, the depths
of isotherms and the vertical water temperature distribution were evaluated. How-
ever, the data obtained with a bathy thermograph did not permit the investigation of
isotherm widenings since the 20 and 15° isotherms south of the equator are below 200 m
level and are not picked up by the bathy thermograph. The data show that 1) for re-
latively deep sea observations, the deep-sea thermometers are more reliable than the
bathy thermographs; 2) the quadratic errors in evaluating the depths of isotherms are
greater than those in evaluating the isothermal depth differences; 3) the axis of the

UDC: 551.465.43(265/266)

Card 1/2

L 23380-66

ACC NR: AP6007647

Cromwell current is displaced 1° to the north or south of the equator; 4) the rise of equatorial isotherms above a thermocline can be explained by upwelling; and 5) the rise of equatorial isotherms above a thermocline may be partly explained (after Krauss, 1960) by the existence of high velocity currents. Orig. art. has: 3 figures, 2 tables.

SUB CODE: 08/   SUBM DATE: 08Feb65/   ORIG REF: 002/   OTH REF: 010

Card 2/2

ISTOSHINA, M.A.

Modification of the arsenometric method for determining the salinity of sea water by the chlorine content. L. S. Ponomarenko, E. D. Spitsak, and M. A. Istoshina. Meteorologiya i Gidrologiya 1953, No. 10, 41-5; Referat. Zhur. Khim. 1955, No. 3828.—To reduce the consumption of $AgNO_3$ needed for titration it is suggested to reduce the vol of the sample to $1/3$rd and simultaneously reduce the concn of the $AgNO_3$ to $1/3$rd.   M. Hoseh

ISTOSHINA, O.A.

Formation of the flow of the upper Ob and methods of its precalcu-
lation. Trudy TSIP no.58:101-120 '57.   (MIRA 10:8)
              (Ob River--Stream measurements)
              (Siberia Western--Precipitation)

ISTOSHINA, O.A.

Methodology of extended forecasting of inflow in the reservoir
of the Vilyuy Hydroelectric Power Station during the spring
flood. Trudy TSIP no.129-100-105 '64.

(MIRA 17-1?)

ISTOVETS, Ye.Ye. akusherka (Gnezdilino Ivanovskoy oblasti).

Work of the Gnezdilovo Feldsher-Midwife Center in Shuyskiy District.
Fel'd. i akush. 24 no.1:42-43 Ja '59   (MIRA 12:1)
         (SHUYSKIY DISTRICT--OBSTETRICS)

KHIL'KIN, A.M.; DRONOV, A.F.; SHEKHTER, A.B.; KUT'IN, V.A.; ISTRANOV, L.P.;
KASPARYANTS, S.A.

Use of semibiologic prostheses in vascular surgery. Report No.1.
Eksper. khir. i anest. no.1:26-30 '65.   (MIRA 18:11)

1. I Moskovskiy ordena Lenina meditsinskiy institut imeni I.M.
Sechenova (direktor - deystvitel'nyy chlen AMN SSSR prof. V.V.
Kovanov), Tekhnologicheskiy institut legkoy promyshlennosti
(direktor - prof. I.P. Strakhov), Vsesoyuznyy nauchno-issledo-
vatel'skiy institut kozhevennoy promyshlennosti (direktor - B.D.
Breyev), Moskva.

Country	: Rumania	E-1
Category=	: Analytical Chemistry - General	
Abs, Jour.	: Ref Zhur-Khimiya, No 6, 1959	19059
Author	: Esayan, L.; Gherman, M.; Stefan, V.; Istrate, E.	
Institut.	:	
Title	: Gas Chromatography. II. Analysis of a Mixture of Acetylene, Vinyl Chloride and Air. Analysis of Chlorine-Hydrogen Mixture.	
Orig. Pub.	: Rev. chim., 1958, 9, No 3, 125-128	

Abstract   : A method has been worked out for separating a mixture of C_2H_2 (I), vinyl chloride (II) and air, in a coil-shaped glass column, 1.6 m long and 5 mm in diameter, filled with aluminum silicate (particle size 0.4-0.5 mm) impregnated with dibutyl phthalate (in an amount of 20.6%). Catharometer readings are recorded by a photographic procedure similar to that used in polarography. Calibration curves for II are of linear shape, those for I are non-linear, being linear only for concentrations below 2%. Mean error of analysis about 1%. Mixtures of H_2 and Cl_2 are poorly separated in columns with silica-gel and charcoal, better -- in a column with a

Card: 1/2

E-6

ISTRATE, Firita; PAUSESCU, E.; ELAD-ANTONESCU, Claudia; ILESCU, Eveline

Experimental investigations of atherosclerosis. Action of mammary
gland extracts on cholesterolemia and atherogenesis. Stud. cercet.
med. intern. 2 no.3:415-432 '61.
(ARTERIOSCLEROSIS, experimental) (BREAST extracts)
(CHOLESTEROL blood)

WOLFSHAUT, C.; IOANITIU, D.; ESANU, C.; STOICA, T.; ALBU, N.; BUNEA, M.;
        ISTRATE, E.

        Melanoderma with primary hypercorticotropism. Stud. cercet.
        endocr. 15 no.4:351-355 '64.

STRUGARU, C.; ISTRATE, I.

    Products resistant to high temperatures, moisture, and
dynamic stresses based on butyl rubber. Rev chimie Min petr
14 no.7:391-397 Jl '63.

ISTRATE, Mircea, ing., corespondent

Centralized operations. Constr Buc 15 no.7253 30 N '63.

ISTRATE, N., ing.

Professional knowledge must keep pace with technology.
Constr Buc 15 no.724: 2 23 N '63.

1. Responsabilul cabinetului tehnic de la I.C.Or., Galati.

ISTRATE, Vasile

Training and improving the cadres. Constr Buc 16 no. 739:4
7 March '64.

1. Inspector sef in problemele de invatamint la Trustul
    Regional de Constructii de Locuinte, Iasi.

ISTRATE, Vasile

New series of workers. Constr Buc 16 no.760:4 1 Ag '64.

1. Head of the Office of Cadre Training, Regional Trusts for Housing Construction, Iasi.

ISTRATE, V., ing.

Manufacturing technical veneers from Euramerican poplar wood.
Ind lemnului 14 no.5:165-175 My '63.

ISTRATE, V., ing.

Manufacture, properties, and uses of plywood obtained from the
Euramerican poplars grown in Rumania. Ind lemnului 14 no.6:216-
223 Je '63.

ISTRATE, V., ing.; FILIPESCU, Gh., ing.; STEFU, C., ing.

Influence of chip size on the adhesive consumption and board
characteristics. Ind lemnului 15 no.4:133-137 Ap'64

RUMANIA

POPESCU, C.; NEGOITA, Stela; ISTRATESCU, Lucretia; BRAILEANU, C.;
    VASILESCU, Cornelia.

    Laboratory of Galenic Pharmacy, School of Pharmacy, Institute
        of Medicine and Pharmacy, Bucharest (Laboratorul de farmacie
        galenica, Facultatea de farmacie, I.M.F., Bucuresti) - (for
        all)

"Improvement in the Quality of Tablets and Dragées. Experiments
    with Disaggregating and Lubricating Excipients."

(5)

ISTRATESCU, V.

On the functions T. Comunicarile AR 11 no.12 1437-1438 D '61.

1. Comunicare prezentata de G. Mihoc, membru corespondent al Academiei R.P.R.

ISTRATESCU, V.; VADUVA, I.

    Products of statistical metric spaces. Studii cer mat 12 no.2:
567-574 '61.

ISTRATESCU, V.

Banach spaces with computable basis. I. Rev math pures 7 no.3:
481-482 '62.

ISTRATESCU, V.

Banach spaces with a computable basis. Pt. 2. Rev math Roum 9
no.5:431-433 '64

On Nuclear operators. Ibid.: 475-477

ISTRATESCU, V.

Nuclear operators. Studii cerc mat 15 no. 5:661-663 '64.

Banach spaces with numerable base. Pt. 2. Ibid.:665-667

T-7

RUMANIA/Human and Animal Physiology - Internal Secretions.
                    Sex Glands.

Abs Jour   :   Ref Zhur - Biol., No 18, 1958, 84451

Author   :   Istrati, F., Petrya, I.

Inst   :   Rumanian AS.

Title   :   Changes of the Estrous Cycle in Animals Placed into
                Conditions of Estrogenic Hormone Production in a Factory.

Orig Pub   :   Zh. med. nauk Akad. RNR, 1954 (1955), 3, 183-192

Abstract   :   In various shops of an estrogen producing factory, cages
                containing rats were suspended level with the workers'
                heads. In all of the rats the estrous phase was observed
                to be longer by 2-3 times. As castrated rats were kept in
                the shops, their cycle was restored. Even after the rats
                were removed from the shops, they retained this prolonged
                estrous phase for a long period of time, a fact which was

Card 1/2

RUMANIA/Human and Animal Physiology - Internal Secretion.   T-7
          Sex Glands.

Abs Jour   : Ref Zhur - Biol., No 18, 1958, 84451

          especially true for rats which were kept in shops where
          estren crystallization took place. Apparently, absorp-
          tion of estrogens occurs mostly by inhalation of estroge-
          nic aerosoles, although it is possible that some of the
          estrogens were absorbed through the skin and also internal-
          ly as the rats licked each other.

          Card 2/2

RUMANIA/Cultivated Plants - Fruits. Berries.

Abs Jour   :   Ref Zhur - Biol., No 7, 1958, 30001

Author   :   Parhon, C.I., Istrati, F., Ionescu, G.

Inst   :   -

Title   :   An Investigation of Factors Causing Compensatory Hyper-
                trophy of the Suprarenal Gland. III. The Effect of Seve-
                ral Animal Hormones and Extracts of Endocrine Secretions
                on the Flowering Process in Fruit Tree Branches.

Orig Pub   :   Studii si cercetari endocrinol. Acad. R.P., 1955, 6,
                No 3-4, 5360543 (Rumanian)

Abstract   :   Experiments of the Laboratory of Phytoendocrinology of
                the Rumanian People's Republic have shown that hormones
                and extracts of the glands of inner secretion from animals
                produce an effect on the physiology and morphology of
                fruit trees. Thus, estrone in a dose of 1000 units per
                1 liter of water, acting (in February) on branches of
                apricot, peach, sweet and sour cherries caused the

Card 1/2

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M-6

RUMANIA/Cultivated Plants - Fruits, Berries.

Abs Jour   :   Ref Zhur - Biol., No 7, 1958, 30001

flowering of all branches (the branches were placed in a
vessel containing a solution of estrone). There was an
increase in the number of flowering buds in the peach by
almost 4 times, in the sour cherry (Prunus cerasus) it was
almost triple, in the sweet cherry (P. avium) doubled in
comparison with the control (branches placed in water).
Placental extract in a concentration of 1:100 caused flo-
wering of the branches in the sweet cherry and apricot
only. Suprarenal extract in a concentration of 1:100 sti-
mulated flowering in the sour cherry, peach, and apricot.
It is also noted that the action of estrone delayed the
appearance of leaves on all branches, and the suprarenal
extract stimulated the development of the staminal organs
and simultaneously retarded the growth of the petals in
the apricot blossoms.

Card 2/2

ISTRATI, F.

RUMANIA/Human and Animal Physiology - Internal Secretion.   V-9

Abs Jour   : Ref Zhur - Biol., No 1, 1958, 4246

Author   : C. Parhon, F. Istrati, G. Ionescu

Inst   : Academy of the Rumanian Popular Republic

Title   : Factors Influencing the Compensatory Hypertrophy of
              the Adrenal Glands. IV. Adrenal Compensatory Hypertro-
              phy after Lumbar Sympathectomy.

Orig Pub   : Studii si cercetari endocrinol. Acad. RPR, 1955, 6,
              No 3,3, 543

Abstract   : In rats, the right adrenal gland was removed, and a left
              lumbar sympathectomy was performed. Twenty days after-
              wards, the left adrenal gland was removed. Its weight
              was increased by 55%; hyperaemia of the vessels of both
              zones was discovered and there were signs of an increased
              activity of the zona glomerulosa. The medulla consisted

Card 1/2

ISTRATI, F.

RUMANIA/Human and Animal Physiology - Internal Secretion.   V-9

Abs Jour   : Ref Zhur - Biol., No 1, 1958, 4247

Author   : S. Parhon, F. Istrati, G. Ionescu

Inst   : Academy of the Rumanian Popular Republic

Title   : Factors Influencing the Compensatory Hypertrophy of
              the Adrenal Glands. V. Adrenal Compensatory Hypertrophy
              after Subdiaphragmal Vagotomy.

Orig Pub   : Studii si cercetari endocrinol. Acad. RPR, 1955, 6,
              No 3, 4, 543-544

Abstract   : Subdiaphragmal vagotomy does not influence the compensa-
              tory hypertrophy of the adrenal glands. The weight of
              the remaining gland increases by 61%, the relationship
              of the weight of the gland to that of the body is not
              changed. There are no histological changes in the adre-
              nal. Only in the zona reticulata does one observe a

Card 1/2

RUMANIA/Human and Animal Physiology - Internal Secretion.   T-7
            Sex Glands.

Abs Jour   : Ref Zhur - Biol., No 18, 1958, 84452

Author   : Milcu, St.-M., Istrati, F., Vaisler, L., Costiner, E.

Inst   : Rumanian AS.

Title   : Functional Ovary Changes Produced by Interoceptive Irrita-
               tions.

Orig Pub   : Studii si cercetari endocrinol. Acad. R.P.R., 1955, 6,
               No 3-4, 547-554.

Abstract   : For a 1 month period vaginal smears of 40 rabbits were ex-
               amined. Then, the ovaries (O; one or both) of these rab-
               bits were sutured with thread. After an interval of ano-
               ther month, estrogenic functions were again examined.
               Animals with thread in one of their O first displayed a
               shortening of estrus periods by about 30 percent, and then

Card 1/2

PARHON, C.I.,academician,; BABES, A..; PETREA, I.,; ISTRATI, F.,; BURGHER,
E.

Structure and sexual dimorphism of the parotid gland of the white
rat. Bul. stiint., sect. med. 7 no.3:851-862 July-Sept 55.

(PAROTID GLAND, anat. & histol.
    morphol. & sexual dimorphism, in white rat)
(SEX CHARACTERISTICS
    sexual dimorphism of parotid gland, in white rat)

RUMANIA/Human and Animal Physiology (Normal and Pathological).   T-9
             Internal Secretion.   General Problems.

Abs Jour   : Ref Zhur - Biol., No 11, 1958, 51019

Author   : Parhon, C.I., Istrati, F., Ionescu, G.

Inst   : Academy of Sciences People's Republic of Rumania.

Title   : Certain Animal Hormones and Endocrine Gland Extracts In-
              fluencing the Root System of the Willow Tree (Salix ca-
              preea).

Orig Pub   : Studii si cercetari endocrinol. Acad. RPR, 1956, 7, No 3,
              301-309.

Abstract   : Thyroxin, folliculin, and endocrine gland extracts stimula-
              te the growth and development of willow roots. Thyroxin,
              as well as placenta and suprarenal gland extracts stimula-
              te the growth of secondary root branches, while folliculin

Card 1/2

RUMANIA / Human and Animal Physiology. Internal Secretion.   T-7

Abs Jour   : Ref Zhur - Biologiya, No 1, 1959, No. 3660

Author   : Parhon, C. I.; Jatrati, F.; Steroscu, N.
Inst   : Not given
Title   : Experimental Study of the Role of the Nervous System
             in Vaginal Response to Estrogenic Hormones

Orig Pub   : Fiziol. norm. si patol., 1957, 4, No 2, 100-105

Abstract   : Exposure of castrated female rats to light somewhat
             sensitizes them to estrogens, as expressed in a shorter
             latent period of the estrus stage. No change in the
             sensitivity to estrogens was observed when the animals
             were kept in a dark room.

Card 1/1

55

Istrati, F.

I.

RUMANIA/Plant Physiology - Growth and Development

Abs Jour   : Ref Zhur - Biol., No 18, 1958, 82033

Author   : Parhon, C.I., Istrati, F., Sahleanu, V.

Inst   : Academy RPR

Title   : The Reaction of Sections of Stalks of Sunflower Helian-
             thus Annuus on the Action of Certain Animal Hormones
             and Extracts of Endocrine Glands

Orig Pub   : Studii si cercetari endocrinol. Acad. RPR, 1957, 8, No 1,
             33-45

Abstract   : The action of tyroxin (in concentrations of I and 2 ng
             in 50 ml water), folliculin (2000 and 1000   in the
             same amount of water), insulin (40 and 20   ) as well
             as albumin extracts of the thyroid gland, suprarenal
             gland, placenta and testicle (4 and 2 ml in 50 ml water
             for each one of them on plant growth was studied.

Card 1/2

STERESCU, N.; ISTRATI, Firita; VOICULET, N.

Action of insulin upon the inclusion of the radioactive phosphorus (P^{32}) in the testicle of an impubic rat. Studii cerc fiziol 5 no.2: 383-387 '60. (EEAI 10:2)

1. Institutul de fiziologie normala si patologica "Prof. Dr. D.Danielopolu" al Academiei R.P.R. 2. Comitetul de redactie, Studii si cercetari de fiziologie, membru al Comitetului de redactie, Studii si cercetari de fiziologie (for Sterescu)
(INSULIN)   (PHOSPHORUS)   (TESTICLE)
(RADIOISOTOPES)

WOLFSHAUT, C.; ALBU, Natalia; ISTRATI, Firita; CRISTOVEANU, Ana;
    BUNEA, Minodora.

    2 Cases of hypercorticism with extensive skin pigmentation of
    the digital joints. Studii cercet. endocr. 16 no.2:187-191 '65.

ISTRATI, G.

RUMANIA/Microbiology - Microbes Pathogenic for Man and Animals.   F
            Bacteria. Bacteria of the Intestinal Group.

Abs Jour   : Ref Zhur Biol., No 22, 1958, 99357

Author   : Istrati, G., Negru, Florica., Meitert, T.
Inst   :
Title   : Contribution to the Study of the Reaction of Corro-
              agglutination and the Reaction of Precipitation with
              Haptene in the Diagnosis of Bacillary Dysentery.

Orig Pub   : Microbiol., parazitol. si epidemiol., 1957, 2, No 6,
              501-510

Abstract   : No abstract.

Card 1/1

- 50 -

ISTRATI, G.
SURNAME (In caps); Given Names

Country: Rumania

Academic Degrees: Dr.

Affiliation: [not given]

Source: Bucharest, Microbiologia, Parazitologia, Epidemiologia, No 3,
        May-Jun 61, pp 231-245.
Data: "Up-to-Date Findings in Bacterial Dysentery."

    Co-author:

    MEITERT, T., Dr.   [affiliation not given]

ISTRATI, G.

Research on active immunity in human bacillary dysentery. I. Arch.
Roum. path. exp. microbiol. 20 no.1:53-62 Mr '61.

1. Travail de l'Institut "Dr. I. Cantacuzino" - Service des Entero-
bacteriacees.

(DYSENTERY BACILLARY immunol)

ISTRATI, G.; MEITERT, T.; CIUFECO, C.

The appearance of phase variations, pathogenic and apathogenic, in
Shigella flexneri 2a under the influence of bacteriophage and hetero-
logous serum. Arch. Roum. path. exp. microbiol. 20 no.1:87-94 Mr '61.

1. Travail de l'Institut "Dr. I. Cantacuzino" - Service de la Dysenterie.

(SHIGELLA DYSENTERIAE culture)   (BACTERIOPHAGE)
        (IMMUNE SERUMS pharmacol)

ISTRATI, G.; CIUFECO, C.; CIMPEANU, I.

Method of isolation of Shigella and Salmonella. I. Isolation from
polluted waters. Arch. roum. path. exp. microbiol. 21 no.1:89-99
Mr '62.

1. Travail de l'Institut "Dr. I. Cantacuzino" -- Service des
Enterobacteriacees.
        (SHIGELLA)   (SALMONELLA)   (WATER MICROBIOLOGY)
              (BACTERIOLOGICAL TECHNICS)

ISTRATI, G.; MEITERT, T.; CIUFECO, C.; TUNARU, C.; HENTIU, Valeria; DELEANU, L.

Phage typing of Shigella. III. Stability of the bacteriophage types
in Shigella flexneri 2a. Arch. roum. path. exp. microbiol. 21 no.2:
288-294 '62.

1. Institut "Dr.I. Cantacuzino" (for Istrati, Meitert, Ciufeco).
2. Centre Sanitaire Antiepidemique Regional de Constantza et Centre
Sanitaire Antepidemique Regional de Brasov.(for Tunaru, Hentiu,
Deleanu).
        (SHIGELLA)   (BACTERIOPHAGE) (BACTERIOPHAGE TYPING)

ISTRATI, G.; MEITERT, T.; CIUFECO, C.; BORDEIANU, Vera; ALEXA, Eugenia; POENARU, Teodorina; MARTIN, Lidia

Phage typing of Shigella. IV. Phage typing of strains of Shigella felxneri 2a isolated from sporadic cases and epidemic foci of dysentery. Arch. roum. path. exp. microbiol. 21 no.2:368-372 '62.

1. Inst. "Dr. I. Cantacuzino" (for Istrati, Meitert, Ciufeco).
2. Centre Sanitaire Antiepidemique de l'Institut "Dr. I. Cantacuzino" -- Service des Enterobacteriacees (for Bordeianu, Alexa, Poenaru, Martin).

(SHIGELLA)   (BACTERIOPHAGE TYPING)   (DYSENTERY, BACILLARY)

RUMANIA

ISTRAŢI, Gh., Dr.

Section Chief in the Institute "Prof. I. Cantacuzino".
Originally presented 30 Mar 63 at a meeting of the
Clinical Laboratory Section of the Bucharest Branch
of the U.S.S.M.

Bucharest, Viata Medicale, No 12, 15 Jun 63, pp 855-858

"Methods For Diagnosing Enterobacteriaceal In Clinical
Laboratories."

(1)

ISTRATI, G.; SZEGLI, Lucia; CIUFECO, C.; FILIPESCO, S.; DOBRE, Maria

Sereny test produced by certain Salmonellae. Arch. Roum.
path. exp. microbiol. 22 no.1:101-107 Mr '63.

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(KERATOCONJUNCTIVITIS)   (CONJUNCTIVITIS)
(SALMONELLA INFECTIONS, ANIMAL)

ISTRATI, Gh.; ISTRATI, Maria; MEITERT, T.; CIUFECO, C.

Vaccination against dysentery. Experimental research in humans
and animals. Arch. roum. path. exp. microbiol. 23 no.3:531-536
S'63

1. Travail de l'Institut "Dr. I. Cantacuzino"; Service des In-
terobacteriacees, Bucarest.

ISTRATI,Gh., dr.; CIUFECU,C., dr.; CIMPEANU,I., dr.

Method of isolation of bacteria of the Shigella and Salmonella
species from polluted water and fecal material when they present
in very small numbers. Microbiologia (Bucur) 9 no.6:547-549
N-D '64

1. Lucrare efectuata in Laboratorul de dizenterie din Institutul
de microbiologie, parazitologie si epidemiologie "Dr. I. Canta-
cuzino" (director: prof. I. Mesrobeanu), Bucuresti.

ISTRATI, G.; MEITERT, T.

Lysotyping of Shigella flexneri. Arch. roum. path. exp. Microbiol.
22 no.4:903-908   S-D'63

1. Travail de l'Institut "Dr.I. Cantacuzino", Service des Ente-
robacteriacees.

L 45251-66   I   JK

ACC NR: AP6033591

SOURCE CODE: RU/0023/65/010/004/0355/0360

AUTHOR: Sarateanu, D.--Seretsyanu, D. (Doctor); Istrati, I.--Stratu, I. (Doctor); Landesman, V. (Doctor); Satmari, C.--Satmari, K. (Doctor); Sorodoc, G.--Sorodok, G. (Doctor); Babes, V. T.--Babesh, V. T. (Doctor); Nichifor, I.--Nikifor, I. (Doctor); Georgian, I.--Dzhordzhian, I. (Doctor)

ORG: Institute of Inframicrobiology, RSR Academy (Institutul de inframicrobiologie al Academiei R.S.R.)

TITLE: Contribution to the study of the incidence of ornithosis in Rumania

SOURCE: Microbiologia, parazitologia si epidemiologia, v. 10, no. 4, 1965, 355-360

TOPIC TAGS: antibody, animal disease, man, disease incidence

ABSTRACT: In a test of 468 persons aged 20 to 22, 18.5 percent showed anti-ornithosis antibodies (determined by complement fixation). The positive percentage varied according to the origin of the subjects, but no difference was found between rural and urban areas. In closed communities the index of positive reactions increased in the course of 3 months from 6.2 and 7.3 percent to 25.6 and 19.1 percent, respectively; of the 40 persons kept under constant observations, 7 showed an increase in antibody titer. Orig. art. has: 4 tables. [Based on authors' Eng. abst.] [JPRS: 32,913]

SUB CODE: 06 / SUBM DATE: 19Dec64 / ORIG REF: 005 / SOV REF: 001
OTH REF: 004

UDC: 616.988.73(R)

Card 1/1

SARATEANU, D., dr.; ISTRATI, I., dr.; LANDESMAN, V., dr.; SATMARI, C., dr.,
SORODOC, G., dr.; BABES, V.T., dr.; NICHIFOR, I., dr.; GEORGIAN, I., dr.

Contribution to the incidence of ornithosic infections in the
Rumanian People's Republic. Microbiologia (Bucur.) 10 no.4:355-
360 Jl-Ag '65.

1. Lucrare efectuata in Institutul de inframicrobiologie al
Academiei R.S.R.

SORU, Eugenia; BARBER, Cella; ISTRATI, Maria; PADURARU-DUMITRESCU, Maria;
     PODHORSKI, Eugenia.

     Effect of isonicotinic acid hydraside on mycobacteria. I. Effect on
     the enzyme system and chemical structure of the Bacillus para-
     tuberculosis Grassberger 55. Stud. cercet. inframicrobiol., Bucur.
     6 no.3-4:533-564 July-Dec 1955.
          (MYCOBACTERIUM
               paratuberculosis, eff. of isoniazid on enzyme system
               & chem. structure)
          (NICOTINIC ACID ISOMERS, eff.
               isoniazid, on enzyme system & chem. structure of Myco-
               bacterium paratuberculosis)

DEREVICI, A.; ISTRATI, M.

Comparative research on the diagnosis of adenovirus diseases by
complement fixation reaction and agar-gel precipitation tests.
Stud. cercet. inframicrobiol. Bucur. 12 no.1:63-70 '61.

1. Comunicare prezentata la Institutul de inframicrobiologie al
Academiei R.P.R.
        (VIRUS DISEASES diagnosis)   (COMPLEMENT)
                    (SERODIAGNOSIS)

ISTRATI, Gh.; ISTRATI, Maria; MEITERT, T.; CIUFECO, C.

Vaccination against dysentery. Experimental research in humans
and animals. Arch. roum. path. exp. microbiol. 23 no.3:531-536
S'63

1. Travail de l'Institut "Dr. I. Cantacuzino"; Service des En-
terobacteriacees, Bucarest.

PARHON, C.I.,academician,; BABES, A..; PETREA, I..; ISTRATI, P..; BURGHELE, N.

Study of the structure of submaxillary salivary glands in white rats
Bul. stiint., sect. med. 7 no.2:487-498 Apr-June 55.

(SUBMAXILLARY GLAND, anat. & histol.
struct. in white rats)

ORLOV, V.F., slesar'; ISTRATIY, P.P., slesar'

Machine for straightening bore rods. Gor. zhur. no.6:71 Je '61.
(MIRA 14:6)

1. Noril'skiy gorno-metallurgicheskiy kombinat.
(Rock drill---Maintenance and repair)

ISTRATOIU   R.

RUMANI./Chemical Technology. Chemical Products   H
        and Their Applications. Synthetic Poly-
        ners. Plastics.

Abs Jour : Ref Zhur-Khimiya, No 6, 1959, 21488

Author   : Istratoiu, R.
Inst   :
Title   : Plastic Packing Films.

Orig Pub : Tehn. noua, 1958, No 160, 8

Abstract : Characteristics of the films are given:
           cellophane, polyvenyl chloride (soft and
           hard), polyethylene, polyethylenetereph-
           thaliate, polyanide, polyvinylidene chlo-
           ride, as well as pliofilm and combination
           fins of cellophane and polyethylene. --
           L. Pesin

Card   : 1/1

                    H -/3 ј

Istratoiu, R.

RUMANIA/Organic Chemistry. Theoretical Organic   G-1
     Chemistry.

Abs Jour : Ref Zhur-Khimya, No 9, 1959, 31208

Author   : Mihail, R., Istratoiu, R., Lupu, Al.,
           Georgescu, B.
Inst   : -
Title   : On the Reaction of Re-esterification of
           Dimethylterephthalate by Ethyleneglycol.

Orig Pub : Srudii si cercetari chim., 1958, 6, No 5,
           161-183

Abstract : The rate of re-esterification of dimethyl-
           terephthalate (I) by ethyleneglycol (II)
           (mol. ratio I : II = 1 : 2.6) under the
           influence of additions of Na, Li, Mg, PbO,
           MgO, ZnO, Sb$_2$O$_3$ and Zn, Cd, Co, Ni, Na and

Card   : 1/3

ISTRATOIU, R.

Standards for the analysis of plastic materials. p. 412.

REVISTA DE CHIMIE. (Ministerul Industriei Petrolului si Chimiei si
Asociatia Stiintifica a Inginerilor si Tehnicienilor din Rominia) Bucurestil
Rumania. Vol. 10, no. 7, July 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no. 1,
January 1960.

Uncl.

RUM/3-59-10-13/16

15(8)

AUTHORS: Mihail,P.; Istrățoiu,R.; Topciu,R. and Petrescu,Gh.

TITLE: Direct Polymerization of Propylene From the C_3 Fraction

PERIODICAL: Revista de Chimie, 1959, Vol 10, Nr 10, pp 602-606

ABSTRACT: Rumania has rich reserves of propylene whereas
its aromatics are limited; it was, therefore,
natural to try to obtain polystyrene on the basis
of an aliphatic product. When the problem arose,
Rumania lacked a separation installation for con-
centrated propylene, needed in polymerization.
A solution was found by obtaining polypropylene
directly from the C_3 fraction which abounds in
Rumanian refineries. Since in the near future
important quantities of polypropylene will have
to be produced, it was decided to test the pro-
cedures in a semi-industrial installation to
evaluate the results technically and economically.
Pertinent literature indicates the use of a

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RUM/3-59-10-13/16

Direct Polymerization of Propylene From the C3 Fraction

monomer with high gas concentration (more than
95%), the polymerization being effected in a
hydrocarbon solvent (pentane, hexane, etc.).
The author enumerates the various advantages and
disadvantages of the procedure. Experiments in
the laboratory were at first conducted by using
a synthetic C_3 fraction whereas presently, the
process is being carried out with the C_3 fraction
from refineries. The specific problems of the
new procedure are: Desulfurization and purification
of the C_3 fraction to make it capable of polymeri-
zation; the polymerization of propylene contained
in the C3 fraction without using another solvent;
the use of residual gases remaining after polymeri-
zation; and the establishing of a technological
scheme for designing a semi-industrial installa-
tion. In the laboratory, the mixture was achieved
in an V2A autoclave with an anchor-type agitator,
the separation being achieved by distending the

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Direct Polymerization of Propylene From the C_3 Fraction

gases; in the semi-industrial installation
special mixers will be used, the two phases will
be separated in separators while the desulfurized
C_3 fraction after drying is sent to the polymeri-
zátion installation. Figure 1 shows the semi-in-
dustrial installation. Parameters characteristic
of the new system are: the conversion as a func-
tion of the concentration and the nature of the
catalyst; the molecular weight as a function of
the molar ratio catalyst/cocatalyst; the conver-
sion as a function of the temperature of the ra-
action; conversion as a function of the time of
the reaction; and the importance of agitation.
Figure 8 suggests a design for the industrial
installation based on the results obtained in the
laboratory.
There are 2 flow charts, 1 diagram, 5 graphs
and 2 tables.

Card 3/3

ISTRAT OIG, R.

SOV/4982   PJC

International symposium on macromolecular chemistry, Moscow, 1960.

Mezhdunarodnyy simpozium po makromolekulyarnoy khimii SSSR, Moskva, 14-18
iyunya 1960 g.; doklady i avtoreferaty. Sektsiya I. (International Sympos-
ium on Macromolecular Chemistry Held in Moscow, June 14-18, 1960; Papers and
Summaries. Section I.) [Moscow, Izd-vo AN SSSR, 1960] 346 p. 5,500 copies
printed.

Sponsoring Agency: The International Union of Pure and Applied Chemistry,
Commission on Macromolecular Chemistry

Tech. Ed.: T. V. Polyakova.

PURPOSE: This collection of articles is intended for chemists and researchers
interested in macromolecular chemistry.

COVERAGE: This is Section I of a multivolume work containing scientific papers
on macromolecular chemistry in Moscow. The material includes data on the
synthesis and properties of polymers, and on the processes of polymerization,

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copolymerization, polycondensation, and polyrecombination. Each text is presented in full or summarized in French, English, and Russian. There are 47 papers, 28 of which were presented by Soviet, Rumanian, Hungarian, and Czechoslovakian scientists. No personalities are mentioned. References accompany individual articles.

TABLE OF CONTENTS:

Card 2/9

15.8102

S/190/60/002/011/027/027
B004/B060

AUTHOR: Istratoiu, R.

TITLE: Polymerization of Propylene in the Absence of Solvents

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 11, p. 1746

TEXT: Proceeding from the polymerization of ethylene without the use of a solvent (as described in Ref.1), the author performed the poly- merization of propylene by means of $Al(C_2H_5)_3 + TiCl_3$ at 20 atm, without using any solvent either. The advantages of this method are stated as follows: 1) Reduction of the effect of impurities; 2) poor solubility of the polymer in the monomer, causing the polymer to precipitate and to acquire a stereospecific structure. A striking feature is the rapid and complete reaction, as compared with the reaction in the presence of a solvent (see Diagram). There are 1 figure, 1 table, and 3 non-Soviet references.
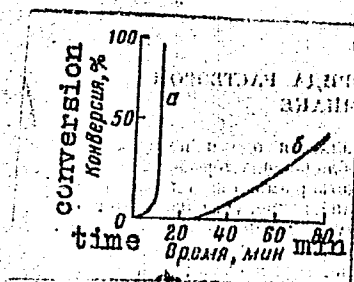
SUBMITTED: July 27, 1960

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S/190/60/002/011/027/027
B004/B060

Legend to Diagram:
a, without solvent; b, with solvent.

Diagram

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ANASTASIU, St.; IORDANESCU, Ruxandra; MIHAIL, R.; ISTRATOIU, Rodica

New purification process of polyolefins with high molecular
weight by the aid of surface active agents. Rev chimie Min
petr 15 no.7:381-385   Jl '64

L 49215-65   EPF(c)/EWP(j)/T   Pc-4/Pr.-4   RM
ACCESSION NR: AP4044190   R/0003/64/015/007/0381/0385

AUTHOR: Anastasiu, St.; Iordanescu, Ruxandra; Mihail, R.; Istratoiu, Rodica

TITLE: A new procedure for the purification of high-molecular-weight polyolefins
by means of surface active agents

SOURCE: Revista de Chimie, v. 15, no. 7, 1964, 381-385

TOPIC TAGS: polyolefin synthesis, polypropylene, polyolefin purification, poly-
merization catalyst, catalyst removal, surfactant, polymer washing, peptization

ABSTRACT: The polyolefins obtained by polymerization with organometallic catalysts
mixed with salts of the transition elements retain catalyst residues, bound either
chemically at the end of the polymer chain or physically, in the interior of the
polymer particles. In this paper, the authors describe an advantageous and origi-
nal procedure, developed in Rumania, for the purification of polypropylene from its
polymerization catalyst [Ti Cl₃ and Cl(C₂H₅)₂Al]. The procedure is based on wash-
ing the polymer with aqueous solutions of ionic surface active agents, in the pre-
sence of non-polar solvents. The latter are used to dilute the salts of the
ionic surface active agents formed by ion-exchange with the salts of polyvalent
metals originating from the catalyst. The following theoretical premises are taken

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ACCESSION NR: AP4044190

into consideration: A). The use of a surface active agent is required for washing the polymer with water. At a convenient dilution, the agent is adsorbed at the interface, thus conferring hydrophilic properties on the surfaces of the polymer by decreasing the interfacial tension at the flotation level between the washing solution and the polymer. B). Through the orientation of the surface active agents toward the interface, an electrostatic repulsion between the polymer granules is obtained, thus impairing their association into large aggregates. C). The impurities originating from the catalyst form solid particles of $TiO_2 \cdot x \ H_2O$, $Al(OH)_3$, etc. which are insoluble in water, but hydrophilic, and their elimination can only be achieved by forming a colloidal solution, through peptization. Consequently, the surfactant used must possess good peptization properties. D). The precipitates originating from the hydrolysis of the catalysts are easily kept in aqueous colloidal suspension at a alkaline pH. Consequently, only anionic or non-ionic surfactants may be used, the cationic agents being active only at an acid pH. E). Double decomposition reactions may take place between the anionic surface active agents and the salts of the catalysts (Ti, Al, etc.), salts of Ca and Mg (constituents of hard water), or salts of Fe, Mu, Cu (originating from the

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manufacturing installation). The compounds formed are soluble in non-polar or weakly-polar solvents, and the washing must be carried-out in their presence. The actual washing procedure is carried-out in an apparatus consisting of a glass auto-clave of 2 liters capacity, equipped with a thermostatic sleeve, drain faucet, and impeller-type agitator which can be set for a velocity of 0-2000 R.P.M. The surface active agents used may be either anionic such as sodium dodecyl benzenesulfonate, sulfated alcohol C_{12}, "Marseilles" type soap with a content of 60% saponifiable substance, detergent from thermal-cracking (Dero type), or a synergistic mixture of alkylarylsulfonates with sulfated secondary alcohols, or non-ionic such as C_{12} alcohol condensed with 10 moles of ethylene oxide, or octylphenol condensed with 10 moles of ethylene oxide. The non-polar solvent chosen was the same gasoline used as a polymerization medium. The general results obtained with type I washings (without gasoline) were independent of the surface active agent used (anionic or non-ionic), the degree of purity reached being approximately of the same order (0.10-0.15% polymer ash). In the washings of type II (with gasoline), the level of purity reached with the anionic agents (0.01-0.05%) was considerably higher than that obtained with non-ionic agents (0.10-0.13%). Other detailed results are extensively tabulated. The authors conclude that the experimental data have verified the theoretical premises, showing the existence of an ionic exchange when ionic agents

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ACCESSION NR: AP4044190

are used in the washing process. It is also shown that the process results in a
higher degree of purity (0.01-0.05% ash), and that the operation is relatively
cheap. Orig. art. has: 6 figures and 1 table.

ASSOCIATION: None.

SUBMITTED: 00   ENCL: 00   SUB CODE: OC, MT

NO REF SOV: 000   OTHER: 021

Card 4/4

BELYAKOV, F.Ye.; BABIN, B.N.; BAL', V.; BOROVKOV, P.N.; VOYEVODIN, I.N.;
GUREVICH, G.M.; GORBUNOVA, P.I.; KONNOV, A.S.; KALANTAROVA, M.V.;
KASHIRSKIY, A.Ya.; KAZANCHEYEV, Ye.N.; LEKSUTKIN, A.F.; LETI-
CHEVSKIY, M.A.; LOPATIN, S.Z.; MIRSKIY, V.N.; PODSEVALOV, V.N.;
SUBBOTINA, V.P.; TANASIYCHUK, N.P.; FEDOTOV, S.D.; FISENKO, K.N.;
EL'KIND, I.G.; BOVIN, S.S.; VASIL'YEV, L.T.; DRINKOV, V.D.; DALE-
CHIN, N.I.; DADAGOV, I.A.; YERMOSHINA, V.I.; ZHUKOV, I.V.; ZIMIN,
D.A.; IVANNIKOV, A.Ya.; KOVALEV, M.K.; LUGAKOVSKIY, N.L.; NALEVSKIY,
A.F.; SEREZHNIKOV, V.K.; SEMIGLASOV, M.D.; SOKOLOV, A.V.; STEPANOV,
V.I.; SAKHARIN, G.S.; SAVENKO, P.A.; SOLODOV, V.P.; UMEROV, Sh.Kh.;
CHIKINDAS, G.S.; SHCHERBUKHINA, S.N.; DYNKIN, G.Z.; LYSOV, V.S.;
OSHEROVICH, A.N.; ROKITSINSKIY, E.V.; BRASLAVSKIY, M.S.; RUDENKO,
I.A.; ZHUKOBORSKIY, M.S.; ZHDANOV, I.Ye.; SUSLIN, V.A.; BRUS, A.Ye.;
VOLYNSKIY, S.A.; KLYUYEV, V.A.; ISTRATOV, A.G.; TIKHOMIROV, I.F.;
BUTYRIN, Ya.N.; VOLYNSKIY, S.A.; MINEYEV, M.F.; MAL'TSEV, V.I.;
VIDETSKIY, A.F., kand.tekhn.nauk, glavnyy red.; DEMIDOV, A.N., red.;
KRAVETS, A.L., red.; KLIMOVA, Z.I., tekhn.red.

[Industrial Astrakhan] Promyshlennaia Astrakhan'. Astrakhan',
Izd-vo gazety "Volga," 1959. 318 p.   (MIRA 12:11)

1. Astrakhan (Province) Ekonomicheskiy administrativnyy rayon.
      (Astrakhan Province--Economic conditions)

S/207/62/000/001/010/018
B145/B138

//. 7 2OO

AUTHORS: Istratov, A. G., Librovich, V. B. (Moscow)

TITLE: Theory of flame velocity in systems with chain reactions

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 1
1962, 68 - 75

TEXT: Ya. B. Zel'dovich's semiquantitative theory of hot flames with chain reactions (Ref. 1: Zel'dovich Ya. B. Tsepnyye reaktsii v goryachikh plamenyakh. Priblizhennaya teoriya skorosti plameni. Kinetika i kataliz, 1961, v. II, no. 3) is elaborated and the rate of flame propagation is calculated for HCl mixtures and compared with experimental data. For the scheme of an unbranched chain: $A + M \rightarrow 2 B + M$, $A + B \rightarrow C + B$ (A initial substance, B active centers, M arbitrary molecule) $db/dt = W_b =$ $2 amk_1 e^{-E_1/RT}$ and $-da/dt = w_a = abk_2 e^{-E_2/RT}$ (a, b, m concentration of A, B, M), and under the assumption of constant concentration of active centers in the reaction zone $(b = b^*)$, the following system of equations is obtained:

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Theory of flame velocity ...

$$c_p \rho u \frac{dT}{dx} = \frac{d}{dx} \lambda \frac{dT}{dx} + q a b_* k_2 e^{-E_2/RT}$$

$$\rho u \frac{da}{dx} = \frac{d}{dx} \rho D_a \frac{da}{dx} - a b_* k_2 e^{-E_2/RT}$$

$$\rho u \frac{db}{dx} = \frac{d}{dx} \rho D_b \frac{db}{dx} + 2 a m k_1 e^{-E_1/RT}$$

(u rate of flame propagation, ρ density, c_p specific heat, λ coefficient of thermal conductivity, D_a and D_b diffusion coefficients). Under the assumption that the concentration of the active centers is so small that it has no effect on the heat balance of A, and neglecting convective heat transfer in the reaction zone, the following equations are obtained:

$$(\rho u)^4 = 4 f_1 \left(\frac{E_2}{E_1} \right)^2 \left(\frac{\lambda_f}{c_{pf}} \right)^2 \left(\frac{c_{pf} T_f}{q a_0} \right)^4 \frac{\varkappa_f^2}{D_{af}^2} a_0 m k_{1f} k_{2f} \exp\left(-\frac{E_1 + E_2}{RT_f} \right) \left(\frac{RT_f}{E_2} \right)^4$$ (1. 8)

$$b_*^2 = f_1 \left(\frac{E_2}{E_1} \right) a_0 m \frac{k_{1f}}{k_{2f}} \exp\left(-\frac{E_1 - E_2}{RT_f} \right)$$ (1. 9)

(q heat effect of the reaction per mole A). For the scheme $B_2 + M \xrightarrow{k_1}$ $2 B + M$, $B + A_2 \xrightarrow{k_2} AB + A$, $A + B_2 \xrightarrow{k_3} AB + B$ under the assumption that

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Theory of flame velocity ...

$k_3 e^{-E_3/RT} \gg k_2 e^{-E_2/RT}$, for a surplus of A_2 one obtains the equations

$$(\rho u)^4 = 4 f_2 \left(\frac{E_2}{E_1}\right)\left(\frac{\lambda_f}{c_{pf}}\right)\left(\frac{c_{pf}T_f}{q b_{20}}\right)^3 \frac{Q}{q} a_{2k} m k_{1f} k_{2f} \exp\left(-\frac{E_1+E_2}{RT_f}\right)\left(\frac{RT_f}{E_2}\right)^3 \quad (2.\ 2)$$

$$b_*^2 = f_2 \left(\frac{E_2}{E_1}\right) \frac{c_{pf}T_f}{Q} \frac{b_{20}m}{a_{2k}} \frac{k_{1f}}{k_{2f}} \exp\left(-\frac{E_1-E_2}{RT_f}\right)\left(\frac{RT_f}{E_2}\right) \quad (2.\ 3)$$

(q heat effect of the reaction per gr B_2, Q per gr A_2; $f_2(E_2/E_1) = \sqrt{\pi}/2$ $(E_2/E_1)^{3/2}$), and for a surplus of B_2 the equation:

$$(\rho u)^4 = 4 x_f^2 \frac{D_{bf}}{D_{af}} \left(\frac{c_{pf}T_f}{q a_0}\right)^2 \rho_f^2 b_{2k} m k_{1f} k_{2f} \exp\left(-\frac{E_1+E_2}{RT_f}\right)\frac{RT_f}{E_2} \quad (2.\ 5)$$

For stoichiometric ratios A_2 : B_2, Eqs. (1. 8) and (1. 9) hold. In cal-
culating the rate of flame propagation for HCl mixtures, it was assumed
that almost complete dissociation of Cl_2 takes place at the combustion
temperature (2500°K), but practically none of H_2 and HCl. The concentra-

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Theory of flame velocity ...

S/207/62/000/001/010/018
B145/B138

tion of the active centers in the reaction zone was found to be low and determined only by the rate of diffusion of the active centers from the combustion products into the reaction zone. The calculation results for u agree with the experimental data from Ref. 12 (Ref. 12: Rozlovskiy A. I. Kinetika temnovoy reaktsii khlorovodorodnoy smesi. Normal'noye goreniye khlorovodorodnikh smesey. ZhFKh, 1956, v. XXX, no. 11) D. A. Frank - Kamenetskiy, S. B. Ratner, E. E. Nikitin, A. I. Rozlovskiy, Ya. B. Zel'do- vich and G. I. Barenblatt are mentioned. There are 1 figure, 1 table, and 12 references: 10 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: Hirschfelder J. O., Bird R. B. and Spotz E. L. The transport properties for non-polar gases and gaseous mixtures. Chem. Rev., 1949, v. 44, no. 1, p. 205; Hirschfelder J. O., Bird R. B. and Spotz E. L. The transport properties for non-polar gases. J. Chem. Phys., 1948, v. 16, no. 10, p. 968.

SUBMITTED: October 14, 1961

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BARENBLATT, G.I. (Moskva); ZEL'DOVICH, Ya.B. (Moskva); ISTRATOV, A.G.
    (Moskva)

    Diffusion heat stability of a laminar flame. IMTF no.4:21-26
    Jl-Ag '62.   (MIRA 16:1)
                            (Flame)

37387

S/020/62/143/006/020/024
B152/B102

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AUTHORS: Istratov, A. G., and Librovich, V. B.

TITLE: Calculation of the rate of normal flame propagation in hydrogen-chlorine mixtures

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 6, 1962, 1380-1383

TEXT: On the basis of Ya. B. Zel'dovich's theory of normal flame propagation in chain reactions (Kinetika i kataliz, 2, no. 3, 305 (1961)), the authors study the combustion of hydrogen-chlorine mixtures. At the temperature of combustion ($2500°K$), Cl_2, unlike H_2 and HCl, dissociates almost entirely and releases a chain reaction: $Cl_2 + X \longrightarrow 2Cl + X$; $w_{Cl} = 2[Cl_2][X]k_1 \exp(-E_1/RT)$. X is an arbitrary molecule, and w is the reaction rate. The chain reaction proceeds in the following way: $Cl + H_2 \longrightarrow HCl + H$; $w_{H_2} = -[Cl][H_2]k_2 \exp(-E_2/RT)$. Excess chlorine

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continues to dissociate after the combustion of the hydrogen and forms active centers. If the equilibrium concentration $[Cl]_{equ}$ is only reached at a large distance from the reaction zone, the small concentration $[Cl]_m$ in the reaction zone can be calculated from the diffusion rate of the active centers in it. In this case, the temperature immediately beyond the reaction zone is higher than the theoretical equilibrium temperature, to which it only decreases at a large distance, as has been demonstrated by Ya. B. Zel'dovich and S. B. Ratner (ZhETF, 11, 170 (1941)). With chlorine excess the heat conduction and diffusion equations as used by D. A. Frank-Kamenetskiy, together with the equations for the reaction rates, yield

$$(\rho_0 u_0)^4 = 4 \left(\frac{RT_r}{E_2}\right)^0 \left(\frac{\lambda}{c_0}\right)^2 \left(\frac{c_{pr}T_r}{q[H_2]_0}\right)^2 \frac{D_{Cl\,r}}{D_{H_2\,r}} [Cl_2]_r [X] k_{1r} k_{2r} \exp\left(-\frac{E_1 + E_2}{RT_r}\right) \quad (4)$$

$$[Cl]_m = 2u_r^{-2} D_{Cl\,r} [Cl_2]_r [X] k_{1r} \exp\left[-E_1/RT_r\right] \quad (5).$$

Subscript r refers to combustion, and subscript o to the initial mixture; q is the heat effect of the reaction, D is the diffusion coefficient, c_p is the specific heat, and λ is thermal conductivity. With H_2 excess

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in the mixture one finds

$$(\rho_0 u_0)^4 \doteq 4 f_2 \left(\frac{E_2}{E_1}\right) \left(\frac{RT_r}{E_2}\right)^3 \left(\frac{c_{pr}T_r}{q[Cl_2]_0}\right)^3 \frac{\mu_{Cl_2}}{\mu_{H_2}} \left(\frac{\lambda_r}{c_{pr}}\right)^3 [H_2]_r [X] k_{1r} k_{2r} \exp\left(-\frac{E_1+E_2}{RT_r}\right) \quad (6) \text{ and}$$

$$[Cl]_m^2 = f_2\left(\frac{E_2}{E_1}\right) \frac{RT_r}{E_2} \frac{c_{pr}T_r}{q[H_2]_r} \frac{\mu_{H_2}}{\mu_{Cl_2}} [Cl_2]_0 [X] \frac{k_{2r}}{k_{1r}} \exp\left(-\frac{E_1-E_2}{RT_r}\right), \quad (7).$$

μ is the molecular weight, and $f_2(E_2/E_1) \approx (\sqrt{\pi}/2)(E_2/E_1)^{3/2}$. For stoichiometric combustion one obtains

$$(\rho_0 u_0)^4 = 4 f_1\left(\frac{E_2}{E_1}\right)\left(\frac{RT_r}{E_2}\right)^4 \left(\frac{\lambda_r}{c_{pr}}\right)^3 \frac{x_r^2}{D_{H_2 r} D_{Cl_2 r}} \left(\frac{c_{pr}T_r}{q[Cl_2]_0}\right)^4 \times$$

$$\cdot \times [Cl_2]_0 [X] k_{1r} k_{2r} \exp\left(-\frac{E_1+E_2}{RT_r}\right); \quad (8)$$

$$[Cl]_m^2 = f_1\left(\frac{E_2}{E_1}\right) \frac{D_{H_2 r}}{D_{Cl_2 r}} [Cl_2]_0 [X] \frac{k_{1r}}{u_{2r}} \exp\left(-\frac{E_1-E_2}{RT_r}\right). \quad (9).$$

The activation energy of chlorine dissociation is $E_1 = 57,500$ cal/mole. The pre-exponential factor was calculated according to Ye. Ye. Nikitin

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(DAN, 119, no. 3, 526 (1958)). $E_2 = 6,800$ cal/mole, $k_2 = 1.32 \cdot 10^{-10}$ cm^3/sec. The calculated values refer to $T_0 = 291^{\circ}$K and $P_0 = 1$ atm of the initial mixture. They are compared with experimental data of A. I. Rozlovskiy (ZhFKh, 30, no. 11, 2489 (1956)). Ya. B. Zel'dovich is thanked for discussions, G. I. Barenblatt for interest, and A. I. Rozlovskiy for making available data. There are 1 figure and 1 table. The most important English-language references are: J. O. Hirschfelder, R. B. Bird, E. L. Spotz, J. Chem. Phys., 16, no. 10, 968 (1948); J. O. Hirschfelder, R. B. Bird, E. L. Spotz, Chem. Rev., 44, no. 1, 205 (1949).

ASSOCIATION: Moskovskiy fiziko-tekhnicheskiy institut (Moscow Physicotechnical Institute)

PRESENTED: November 28, 1961, by Ya. B. Zel'dovich, Academician

SUBMITTED: November 20, 1961

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S/040/63/027/002/012/019
D251/1308

AUTHORS: Istratov, A. G. and Librovich, V. B. (Moscow)

TITLE: On the stability of solutions in the stationary theory
              of thermal explosion

PERIODICAL: Prikladnaya matematika i mekhanika, v. 27, no. 2,
              1963, 343-347

TEXT: The authors investigate the stability of solutions of the
steady theory of thermal explosion. In general terms, this theory
leads to the solution of the equation

$$\frac{1}{\xi^\nu} \frac{d}{d\xi} \left(\xi^\nu \frac{dU}{d\xi} \right) + 2e^U = 0$$

$$\left(U = \frac{(T - T_0)E}{RT_0^2}, \quad \xi = \left[\frac{QZE}{2kRT_0^2} \exp\left(-\frac{E}{RT_0} \right) \right]^{1/2} x \right) \tag{1.1}$$

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D251/D308

The form of the partial solutions for different types of vessels is indicated, and the problem is approached by the method of small perturbances, applied to the non-steady equation of thermal conductivity. On the assumption that the non-steady problem differs only slightly from the steady, this equation is linearized. The solution is sought in the form

$$\varphi(s, \tau) = T(\tau) \, P(s) \qquad (2.5)$$

the time dependence of the solution being defined by the factor

$$T_n(\tau) = e^{-\lambda_n e^{\alpha \tau}} \qquad (2.6)$$

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On the stability of ...

where λ_n are the eigenvalues of the Sturm-Lioiville boundary-value problem. If all λ_n are positive, then the solution is stable, but if even one λ_n is negative, then it is unstable. The stability of the temperature distribution is considered for a two-dimensional vessel. α is defined to be the temperature at the center of the vessel, and the solution of the temperature-distribution equation is stable for small α. The argument is extended to the general case, and the equation

$$\alpha_1^* = -U_0(s_1^*)$$

(4.4)

for the critical value of $\alpha = \alpha_1^*$ is derived. Some qualitative means of estimating stability are indicated. There are 2 figures.

SUBMITTED: December 3, 1962

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S/0207/64/000/003/0139/0144

ACCESSION NR: AP4041203

AUTHORS: Istratov, A. G. (Moscow); Librovich, V. B. (Moscow); Novozhilov, B. V. (Moscow)

TITLE: Concerning the approximation method in the theory of uneven combustion rate of a powder

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1964, 139-144

TOPIC TAGS: combustion rate, combustion stability, computer result, combustion temperature, temperature gradient

ABSTRACT: Analytical expressions for an uneven combustion rate were derived for a powder model with a combustion rate dependent only on the pressure and surface temperature gradient of the condensation phase. Instantaneous and exponential pressure variations were studied. The steady powder combustion rate was investigated for both the linear and exponential dependence on the initial powder temperature. In steady combustion the rate is determined by the initial temperature T_0 and the pressure p, and a relation exists between T_0 and the temperature gradient at the boundary of the condensation phase φ. Knowing this, T_0 was found as a

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ACCESSION NR: AP4041203

function of p and φ, and the combustion rate was expressed in these parameters. Ya. B. Zel'dovich (O skorosti goreniya porokha pri peremennom davlenii. PMTF, 1964, No. 3) showed that this could also be done for uneven burning, but in this case φ must be determined from the solution of the thermal conductivity equation in the solid phase. The problem was worked out with the dimensionless variables; it consisted of finding functions determining the uneven combustion rate and the temperature distribution in a solid phase. This had been previously done by a computer using the approximation method of integral equations. The uneven combustion rate was studied for a linear dependence of the powder combustion rate on the initial temperature. For the purpose of illustrating the derived results, uneven combustion rates with a sharp and an exponential decrease of pressure were examined by the approximation method and compared to computer results with satisfactory agreement. Extinguishing of the powder may take place with a rather rapid decrease in the pressure, and an instantaneous decrease leads to a negative radical which is unsolvable. The final portion of the paper is devoted to the study of the uneven combustion rate with an exponential dependence of the powder combustion rate on the initial temperature. The authors thank O. I. Leypunskiy and G. I. Barenblatt for their critique and advice. Orig. art. has: 6 figures and 28 equations.

ASSOCIATION: none

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ASSOCIATION: APl0l1203

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SUB CODE: FP   NO REF SOV: 006   OTHER: 001

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ASUF-2/ASDP-3/AFETR/AF1C(p)/APGC(g)   WH/JWD
ACCESSION NR: AP5002862   S/0207/64/000/005/0038/0043

AUTHOR : Istratov, A. G. (Moscow); Librovich, V. B. (Moscow)

TITLE: On the stability of powder combustion

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 5, 1964, 38-43

TOPIC TAGS: combustion, combustion stability, solid fuel, explosive, propellant

ABSTRACT: The steady-state combustion of powder was investigated and corresponding stability criteria were established. It is assumed that in the combustion model chemical reactions are concentrated in a zone which is negligibly thin in comparison to the region of preheating. The temperature distribution and concentration during combustion are divided into three regions (see Fig. 1 of the Enclosure). In region 1 heating starts at T_0 in solid powder and increases to T_s at interface

1-2. Chemical reaction takes place between zones 1 and 2, changing the powder into gas. These gaseous products diffuse through region 2 to the interface of combustion, attain the combustion temperature T_b, and undergo the reaction in zone

2-3. Zone 3 represents the combustion products. The heat conduction equations
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